

The Ground Combat Vehicle

In the Conduct of Future Operational Concepts

August, 2010



The Ground Combat Vehicle is a central component of the Army's combat vehicle modernization strategy. Its incremental development approach allows for rapid adaptation to changes in the operational environment and maturation of developing technology. Its modular design provides commanders with configuration and employment options, and complements the Army's versatile mix of forces.

Operations today and as envisioned in our future operating concepts take place among populations, on distributed battlefields, by Soldiers organized in small units. Infantry Companies, Reconnaissance Troops, and the Soldiers who support them are at the point of the spear. Developing the Infantry Fighting Vehicle as the first variant provides the best capability to conduct wide area security and combined arms maneuver in offense, defense and stability operations. Characteristic of these is the need to conduct decentralized operations.

The Ground Combat Vehicle provides force protection that enables close operations among the people. Its armored protected mobility is critical to moving Soldiers to positions of advantage on the battlefield. It is the capability of the Ground Combat Vehicle to transport and deploy cohesive squads that sets it apart from the Bradley Fighting Vehicle. This cohesive squad is critical to successful execution of future operational concepts.

The discussion that follows examines our emerging operating concepts, describes the Infantry squad in an operational context, and highlights the contribution of the Ground Combat Vehicle in the conduct of future operations.

Operational Concepts

Future warfighting concepts describe the broad capabilities required for the Army to be successful on tomorrow's battlefields. These concepts describe how Army forces conduct operations as part of the joint force to deter conflict, prevail in war, and succeed in a wide range of contingencies. These concepts also serve to focus force development efforts.

The Army Capstone Concept describes the conduct of full spectrum operations in an environment of uncertainty, complexity and ambiguity.

The Army Operating Concept describes combined arms maneuver and security operations as central themes for the conduct of decentralized operations.

The Movement and Maneuver Warfighting Functional Concept describes how Brigade Combat Teams, Combat Aviation Brigades and Battlefield Surveillance Brigades conduct combined arms maneuver and security operations under the mission command of Divisions and Corps. Agile and adaptive leaders are essential to the successful execution of combined arms maneuver and security operations. Their execution of mission command- exercising dutiful initiative to accomplish missions within commander's intent is critical to success in decentralized operations. Units that are a versatile mix of tailorable and networked organizations are the foundation of our warfighting concept. And Infantry Squads are the foundation of our Brigade Combat Teams.

Infantry Squad in Operational Context

It is the purpose of the Ground Combat vehicle, with its protected mobility and firepower, to deploy squads to the decisive point on the battlefield. Once deployed the Infantry squad is fundamental to combined arms maneuver. Squads are the lowest tactical unit capable of conducting fire and maneuver. They can sustain operations over time, absorbing losses while maintaining effectiveness. The squad and fire team leaders execute mission command, exercising dutiful initiative to accomplish missions within commander's intent, and collaborating to solve tactical problems via the Nett-Warrior and Mounted Warrior Systems. This is the level where the Army leader, the Squad leader, employs his cohesive squad from the Ground Combat Vehicle.

The squad is essential to effective security operations, operating at the tactical edge of decentralized operations. Squads conduct patrols and man combat outposts, enabling continuous engagement with local populations and allied forces. The size of the squad affects its resiliency and its capacity to sustain operations over time.

The human dimension of our Army is manifest in small tactical units like the Infantry squad. Social aspects of trust and understanding are central to highly trained and competent squads. Trust is enhanced in smaller groups, but too small a group will be ineffective.

Learning and adapting are essential to developing required knowledge, skills and attributes from riflemen to squad leaders. Individual cognitive load in problem solving is increased as the size of the squad decreases. Distribution of human senses reduces as squad size is reduced, decreasing collective situational understanding and overall organizational effectiveness.

The physical aspects of shared burden and endurance are critical to the squad's effectiveness and resiliency. They distribute the load of squad and platoon equipment across the formation. Squads of sufficient size can endure casualties and continue to be effective. Management of work and rest is more difficult as squad size is reduced, with fatigue resulting in less mental flexibility, ingenuity, and creativity.



GCV in Operational Context

The mission of the Infantry is to close with and destroy the enemy by fire, maneuver and close combat. Given the Infantry Squad as the foundation of our Brigade Combat Teams, the Ground Combat Vehicle concept of operation enables squad deployment with unit integrity, providing coherent combat power on the ground immediately. Squads close on the enemy under the armor protection of the Ground Combat Vehicle, dismounting as integral squads. Squads are transported in each of three vehicles, while the platoon medic, forward observer, RTO and other attachments (such as an interpreter or Provincial Reconstruction Team member) are deployed with the platoon leader's vehicle. This maintains squad integrity in vehicles and platoon integrity in its four vehicles. This small unit integrity is vital for rapid deployment, redeployment and transition to follow-on missions on the battlefield. This improved operational capability comes with no increase in the density of platforms in the platoon, company, battalion, or Brigade Combat Team. As a Fighting Vehicle the GCV enables deployment of squads in close contact with the enemy, minimizing their exposure. Infantry carriers and tactical wheeled vehicles, on the other hand, cannot close with the enemy and must deploy their Soldiers at greater distances, exposing them to enemy action for longer periods of time.

In the current Bradley Fighting Vehicle platoon individual Squad members are distributed across all four platoon vehicles, with medics, Forward Observers, and RTOs pushed up to company headquarter vehicles. In addition to the four platoon vehicles the company headquarters vehicles are required to deploy platoon combat power.

Individuals are deployed from separate vehicles and must join together on the ground to form squads. Unit integrity is violated within squads and platoons. Squads must form-up under fire after dismounting, risking greater exposure to the enemy.

The Ground Combat Vehicle design supports the conduct of decentralized operations, fundamental to our future operating concepts. Platoons are dispersed across the company area of operations, deploying squads as integral units and deploying their entire combat power with organic vehicles. The company commander and his headquarters can deploy to the location from which he can best command operations without the burden of delivering individual Soldiers to each of his dispersed platoons. This freedom of movement among small units enables the rapid deployment, redeployment and task-organization of combat power across a distributed, ever-changing battlefield.

The smaller capacity of the Bradley requires consolidation of combat power across separate units and leads to centralized operations. Squads are consolidated at the platoon level, and platoon combat power is consolidated at company level. Company headquarters vehicles must augment the carrying capacity of the platoons. This consolidation restricts the area across which a unit can deploy and extends the time required to deploy combat power as vehicles must move to multiple locations to deliver individual Soldiers. With this restriction in deploying combat power the company in essence becomes the lowest level capable of conducting decentralized operations.

Summary

The capability of the Ground Combat Vehicle supports future concepts of operation.

At the individual vehicle level the GCV maintains unit integrity of the squad. This squad integrity enables squad awareness and planning while moving mounted, and facilitates synchronization during dismounted operations.

At the platoon and company collective level the capability of the GCV enables effective deployment of combat power in the conduct of decentralized operations. Combined arms maneuver and security operations over wide areas are enabled by the freedom of movement among small units provided by the GCV. Company commanders and platoon leaders can focus on command of operations. Their movement and positioning is not constrained.

The GCV provides force protection that enables close operations among the people. Its armored protected mobility is critical to moving Soldiers to positions of advantage on a distributed battlefield. And it is the capability of the GCV to transport and deploy cohesive squads and small units that is critical to successful execution of future operational concepts.